

ABSTRACT OF THE DISCLOSURE

This invention pertains to bonded composites, and absorbent articles comprising such bonded composites. The bonded composites comprise first and second layers of thin-section sheet material bonded by bond elements defining a bond pattern. The bond pattern has a length, and width. The bond pattern includes a first sub-array of longitudinally-oriented separate and distinct stress receptor elements proximate the side edges, and spaced at first distances from each other, and a second sub-array of longitudinally-oriented separate and distinct transfer and dissipation elements preferably disposed inwardly of the side edges and inwardly of the stress receptor elements, and at second distances from the stress receptor elements less than spacing of the stress receptor elements from each other. Bonds can be activated by application of thermal or ultrasonic energy, or pressure e.g. against adhesive. The thin-section elements can comprise polymeric material selected from the group consisting of polyolefins, polyesters, and polyamides, and copolymers, mixtures, and blends of such polymeric materials, and are preferably structured as fibrous, film, or foam work pieces. The composite contact length at a given point along the length of the pattern preferably varies from the average composite contact length by no more than about 13 percent. In preferred embodiments, stress transfer and dissipation elements direct stresses inwardly into the interior of the pattern. In some embodiments, transfer and dissipation elements have first ends disposed on the interior of the pattern, and extend to second ends adjacent side edges of the pattern between respective ones of the stress receptor elements.